



Accelerated Bridge Program

September 2010 Update

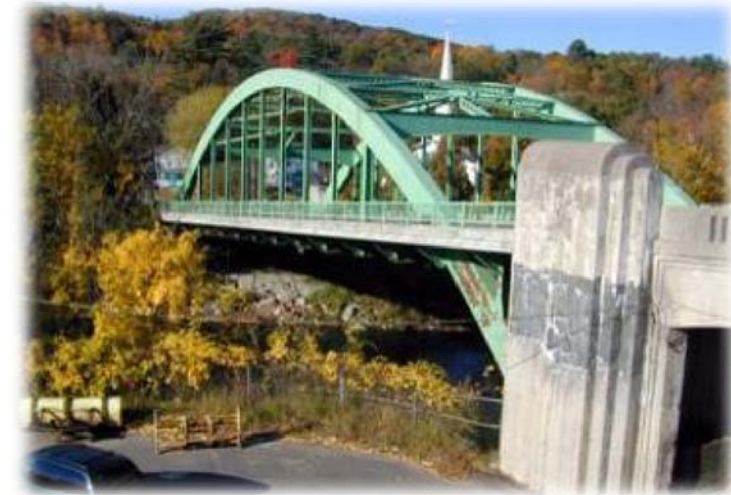
Executive Summary

As year two of the Accelerated Bridge Program draws to a close the program team is working diligently to manage the complex challenges of delivering over 200 bridge projects in eight years. The critical need for the ABP was demonstrated to the public this quarter when holes opened up on the deck of a bridge span on Route I-93 in Medford, backing up traffic for miles while emergency crews worked to repair the crumbling infrastructure. This is exactly the type of problem the

ABP was created to address and yet, the \$3 billion ABP investment will only address a portion of the structurally deficient bridges in the Commonwealth. The seven bridges located along the I-93 corridor in Medford have now been fast-tracked and added to the ABP. This aggressive design-build plan intends to use accelerated construction techniques to replace the seven bridges 14 new superstructures in one construction season. The ABP was designed to be flexible enough to make changes in response to new information. The team is closely monitoring the budget impact of adding urgent new projects and preparing for future contingencies.

Program expenditures to date are \$305.7M and the number of structurally deficient bridges subject to the program has dropped to 487, a 10.3% reduction from the inception of the Program and a 7.4% reduction in this Program year. To date 24 projects are substantially complete and numerous preservation repairs are underway to continue to improve bridge health. The Middleborough/Raynham betterment project was completed ahead of schedule and under budget and the bridge replacement between Hanover and

Hanson will be open this fall having cut one year out of the schedule. The



Huntington - Route 112 over CSX Railroad and Westfield River
Project Substantially Completed June 9th, 2010

two “heavy lift” accelerated construction projects are progressing well, with the Phillipston project slated to be completed next quarter, and the Wellesley project awarded and planned for July 4th, 2011 replacement. Notably, construction on Phase I of the Longfellow Bridge has begun and the long-awaited improvements to make the sidewalks comply with the Americans with Disabilities Act are expected to be complete in two weeks. Overall there are 59 projects currently in construction.

Projects are continuing to advance through the phases of design. Only six projects remain to be assigned to designers, 13 are being scoped, 90 are in design and 19 have been advertised but not yet awarded. A number of design challenges have resulted in shifting project schedules. The current projection is that 70% of projects are trending on-time and 80% on-budget against Program performance measures. Significantly the five mega-projects are at important stages of design that have resulted in schedule adjustments. Project recovery efforts are being deployed to examine the



Longfellow Bridge Groundbreaking, June 21st, 2010

best possible strategy to meet the Program's on-time and on-budget efficiency goals.

Increases in several project budgets and the addition of several new projects have resulted in the reduction of the previously unallocated contingency budget from \$137 million to \$11 million. The unallocated contingency was planned to enable the Program to respond to unforeseen circumstances, litigation costs, risk management, offer incentives on projects, etc. By assigning these funds to specific projects the Program has less flexibility in the future to accommodate new demands or recover from overages. At the same time, construction bids continue to come in below the office estimates. This is a trend across the country. If bids continue to trend low, the unexpended project budget can be returned to the unallocated contingency fund. At this stage in the Program, the team feels it is too early to either cut or add projects based on the budget information available. Nevertheless, the team is developing criteria for making adjustments to the list in the event the budget dictates that projects need to be added or removed from the plan.



Norwottuck Rail Trail Bridge over the Connecticut River in Northampton to be rehabilitated by the Dept. of Conservation and Recreation

During this quarter \$34 million was transferred to the Department of Conservation and Recreation for improvements to pedestrian and recreational bridges that remained with DCR following the creation of MassDOT. Work is already underway to complete the painting of several bridges that cross Storow Drive as part of the 100th Anniversary of the Esplanade. Other projects in the Charles River Basin are making great progress as well. The first major closing of the Craigie Bridge will take place in November and great care has been taken to coordinate the traffic management plan for this very busy bridge. Disruptions are inevitable, but full examination of all alternatives has been made with maximum input from the cities of Boston and Cambridge and area businesses.

Recent targeted recruitment campaigns are helping ABP reach its year two staffing goals. To date, the FTE level for the program is 292 with 9 pending appointments and 70 vacancies, of which 60 fall into the category of Engineering/Technical positions. Overall Minority workforce participation is 16.57 % and Women's participation 19.55%. Access and Opportunity goals continue to be achieved in M/W/DBE participation as well, with 16.6% participation against a goal of 14%. Overall, M/WBE competing as prime contractors have been award \$28 million or 6% of the total value of the project work to date.

Finally, community outreach and communication efforts have continued in force. Since June the Longfellow Bridge Task Force has been meeting regularly gathering input from over 40 stakeholder groups and looking to build consensus around a plan that will safely serve all users of the bridge now and for the future. In addition, 14 public meetings have been held across the state this quarter each seeking to ensure the Commonwealth's bridges are designed and delivered in a customer-focused way.

Anne L. Collins
Accelerated Bridge Program

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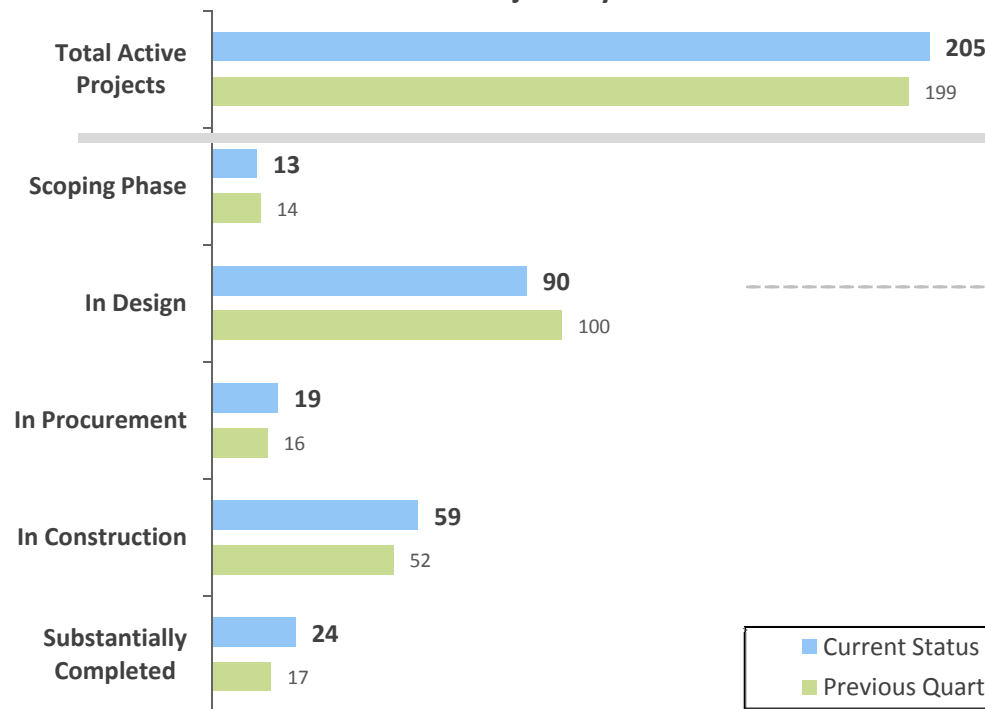
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Program Schedule Status

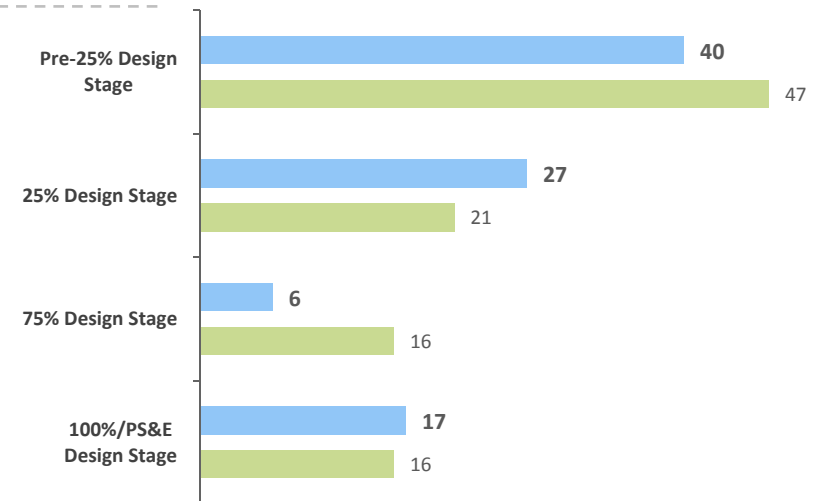
Program Timeline



Active Projects by Phase



Projects in Design by Design Stage



■ Current Status
■ Previous Quarter

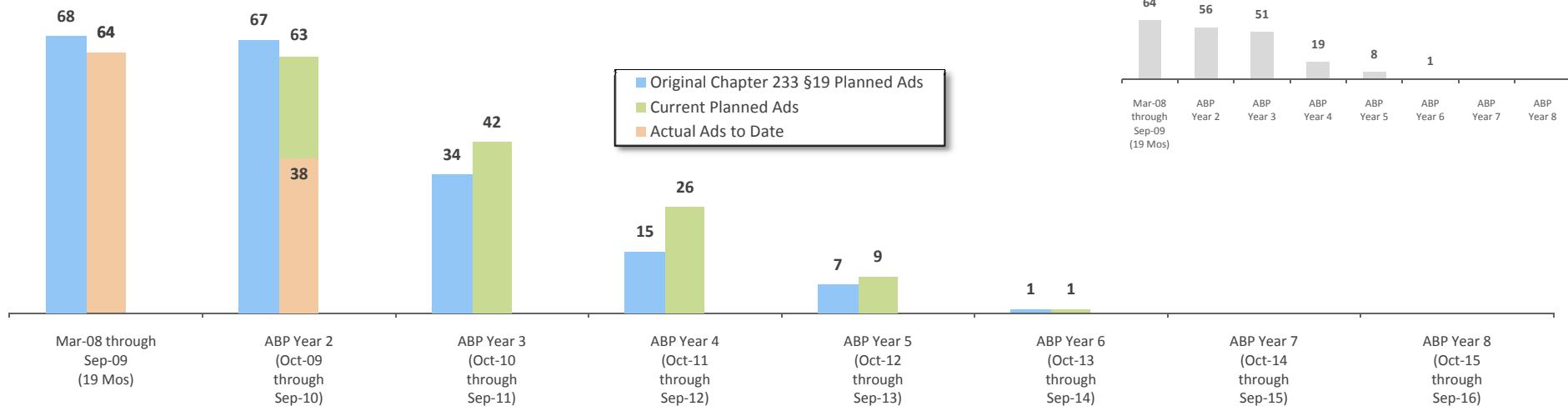
*The original count of projects included in the Program was 192. The list of projects is continuously evaluated based on updated bridge priority. Projects may be added, transferred to other Programs (such as ARRA), or swapped with more pressing bridge repairs/replacements.

Data represented in this report is through August 2, 2010 unless otherwise indicated

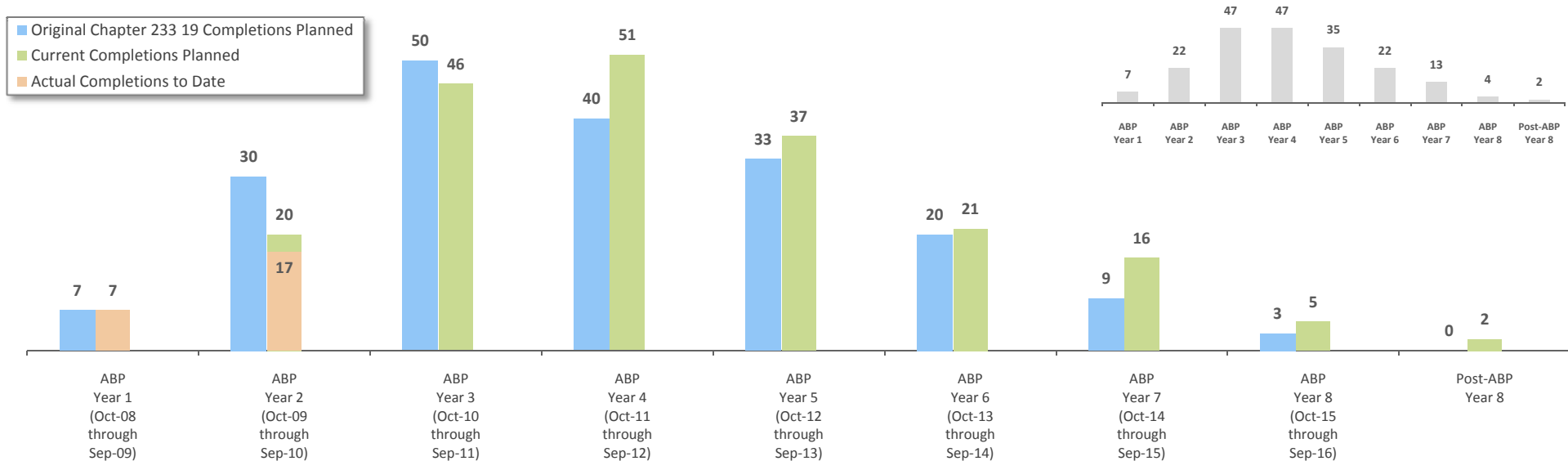
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Program Schedule Status

Actual vs Planned Advertisements



Actual vs Planned Project Completions



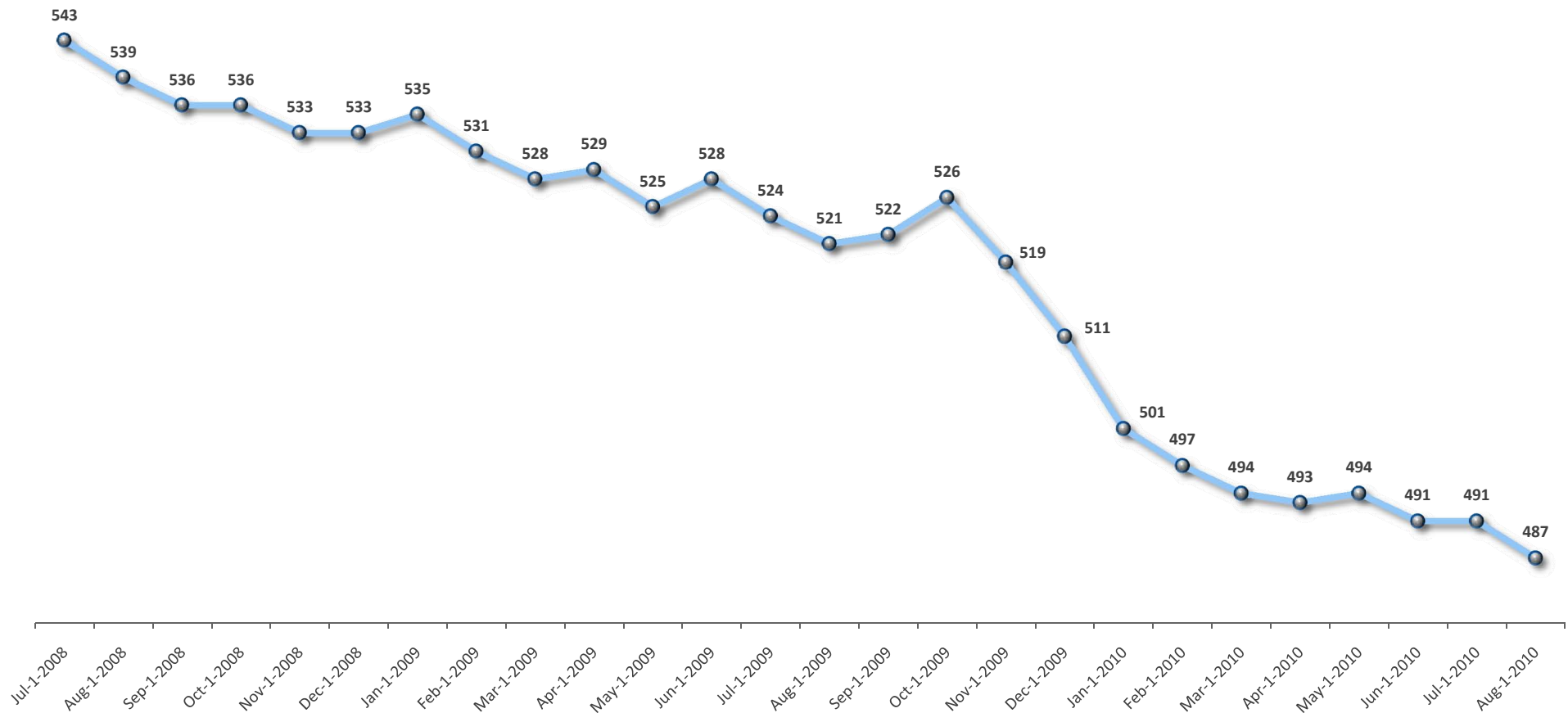
Data represented in this report is through August 2, 2010 unless otherwise indicated

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Bridge Condition Status

A structurally deficient bridge is one for which the deck (riding surface), the superstructure (supports immediately beneath the riding surface), or the substructure (foundation and supporting posts and piers) are rated in condition 4 or less on a scale of 1-10; a bridge that has experienced deterioration significant enough to potentially reduce its load-carrying capacity. Structural deficiency does not necessarily imply that a bridge is unsafe.

Structurally Deficient Bridges
(Former MHD & DCR)



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Access and Opportunity Status

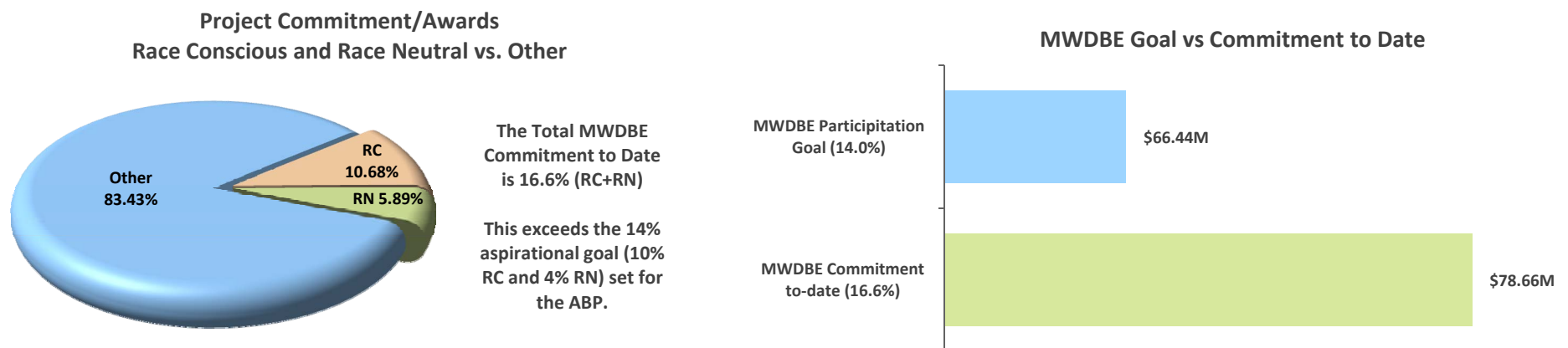
M/W/DBE participation to date is currently 16.6% and is on target to meet or exceed the overall 14% access and opportunity business participation goal for the Accelerated Bridge Program. The total value of open construction bids and awarded engineering design contracts is \$474.6 million of which \$78.7 million has been committed to businesses owned by minorities and women combined. During this period commitments to M/W/DBEs increased by 5.4%. Six commitments were made to M/WBEs valued at \$4 million. To date women-owned businesses secured \$44 million (or 9%) of the total commitments/awards and minority-owned businesses secured \$34.6 million (or 7%).

In construction, a total of \$60.7 million (or 14.5%) has been committed to date to certified businesses owned by minorities and/or women (M/WBE). Of the total M/WBE participation, \$32.9 million or 8% was committed to firms owned by women and \$27.7 million or 6% was committed to firms owned by minorities.

There was no engineering/design activity reported during this period. A total of \$17.9 million (or 32.4% of engineering/design contract) has been committed to date to M/WBEs. Of this total, \$11 million or 20% went to businesses owned by women and \$6.8 million or 12% went to firms owned by minorities.

Two prime contracts were awarded to M/WBEs during this period: The highest contract value awarded to a M/W/DBE was a commitment made to B & E Construction, a minority-owned business. Overall, M/WBEs competing as primes have been awarded a total of \$28 million or 6% of the total value of project work to date.

Job Creation (EBO): The Job count for unique individuals employed by construction contractors on Accelerated Bridge Program projects is 1,783 for jobs created, and 3,052 for jobs retained. The total for unique individual construction jobs associated with the program is 4,835.



Laboratory of Innovation

I-93 Bridges Project in Medford

The bridges on Interstate I-93 in Medford are representative of why investing in and accelerating infrastructure repairs is so vital to the Commonwealth. Of Medford's I-93 bridges, there are seven whose condition warrants superstructure replacement. The piers and abutments are in good enough condition to remain, provided some repairs occur. These seven bridges will be replaced with 14 new superstructures to carry the massive amount of traffic into and out of Boston; up to 181,000 vehicles each day. Their condition and high level of use were demonstrated when two holes opened up on the bridge over Valley Street in early August; an event that showed how critical it is to improve the condition of these structures as soon as possible and as efficiently as possible. This project can be an excellent example of what we are able to accomplish at MassDOT by using new methods to accelerate procurement, streamline project management, and use innovative, rapid construction techniques.

MassDOT has hired CME Associates, a national expert in accelerated bridge construction and prefabricated bridge elements to conduct a feasibility study that will examine the most cost-effective means of addressing these structures with the least traffic impact. For this project, every day of design and every day of construction counts, so MassDOT's team is developing the best ways to manage its design and construction. Our goal is to begin and complete construction as soon as possible. Design/Build is the best delivery method for this project as it allows work and fabrication to overlap with design - especially advantageous for a multi-structure project.

To minimize the inevitable traffic impact of this project, MassDOT will markedly accelerate construction of the fourteen bridges. Although MassDOT's consultant is still finalizing its feasibility study, the project team expects to use cranes to install prefabricated replacement superstructures section by section over a series of short closures of one direction of I-93. Prefabrication of the replacement superstructure sections in a plant will increase their quality and keep an entire lengthy construction task from being performed in the roadway. Each of the 14 replacement superstructures can be erected in brief, strategically-scheduled closures of one side of I-93 with a cross-over providing bi-directional flow on the opposite side of the highway. By using prefabricated materials, design/build, and accelerated bridge construction methods, MassDOT can replace the superstructures during a single construction season instead of many years.



Charles River Basin Status

Accelerate Bridge Program (ABP) Projects Underway

A number of Charles River basin projects are currently under construction or actively in the design stage. Projects include:

BU Bridge: Phase 1 of the Rehabilitation of the Boston University Bridge is ongoing. Phase 1's focus is on the downstream side and over the last three months construction has been very active. On the Boston and Cambridge approaches, the sidewalk and curbing was formed and poured and the concrete deck paving was completed. On the main span of the bridge (within the steel arches) the bridge deck and sidewalk were demolished and structural steel repairs began. The parapet wall was formed and poured; the granite capstones cleaned and reset. Deleading, cleaning and painting has been completed for the full bridge width of the superstructure as well as the steel arch, above the Phase 1 limit of work. Drainage work began with the installation of bridge deck scuppers, water quality structures, and drainage pipes on the Cambridge side of the bridge. Finally, the removal, cleaning and resetting of the granite pylons has started.

As reported in the last quarterly report, the project is currently behind schedule to meet Milestone 1. MassDOT has received a recovery schedule from the contractor and has recently approved the schedule changes.

Craigie Dam and Drawbridge: With the major construction of the Craigie Dam complete, the project focus has been on surface and roadway improvements. The retaining wall (600 feet) and brick veneer between the Museum of Science and Land Boulevard reached substantial completion and traffic signal upgrades took place at the intersection of O'Brien Highway and Land Boulevard. MassDOT, the MBTA and contractors began coordination efforts between the Craigie project and the Science Park T-Station project that recently began.

With the major construction of the Craigie Drawbridge scheduled to begin this November, the fabrication of the bascule drawbridge has been closely monitored and is on schedule to be delivered between September and October.

A major focus for this project has been the Traffic Management Plan as it relates to the construction of the drawbridge. Over the past several months, MassDOT has been actively working with the City of Boston, the City of Cambridge and the State Police to identify the least disruptive plan to move traffic through Leverett Circle and over Land Boulevard. The Traffic Management Plan will be finalized in September. MassDOT will hold a public meeting in October to provide an update on the construction schedule and the Traffic Management Plan as it relates to detours and lane closures.



Charles River Basin Status



Picture furnished by MassBike

Longfellow Bridge: In May, MassDOT chose to withdraw the Environmental Assessment (EA) from Federal Highway and convene a Task Force to develop alternatives for the design of the bridge cross-section that are context sensitive and provide safe and convenient access for all modes of transportation over the bridge. The Task Force had the first meeting on June 29th and has been meeting approximately two times each month since then, with the goal of a final meeting in the middle of October. In October the Task Force will present the Highway Administrator with a consensus recommendation for the final design of the cross-section to be part of the EA analysis. MassDOT is scheduled to submit a revised EA to Federal Highway the middle of November. As part of the Task Force process, the MassDOT design team led members on site walks over the bridge to discuss the project goals and to listen to their concerns related to access and connectivity. The outcome was very positive, bringing new thoughts about the final bridge design to the MassDOT team as well as Task Force members.

Construction related activities for the Early Action Contract began in early August with the temporary sidewalk improvement on the Cambridge-bound side; work is scheduled to be completed before the end of August. Once complete, the contractor will construct the temporary sidewalk improvements on the Boston-bound side. All sidewalk work is scheduled to be completed around Labor Day weekend.

Magazine Beach Pedestrian Bridge: The contractor mobilized and began site work, including the installation of the temporary sidewalks. MassDOT approved the contractor's demolition plan for the existing pedestrian bridge and demolition and heavy construction is expected to begin in the fall.

River Street and Western Avenue Bridges: Over the last three months the design team completed field survey, traffic counts, and concrete sampling and testing. The DRAFT Bicycle and Pedestrian Underpass Feasibility Study was finished and submitted to MassDOT for review. In preparation for 25% design drawing submittal, a Conceptual Design Public Informational Meeting will be held in the fall.

Anderson Memorial Bridge: On July 22nd, a second Conceptual Design Public Informational Meeting was held to discuss the design options and bicycle and pedestrian connectivity concerns with the public. The DRAFT Bicycle and Pedestrian Underpass Feasibility Study was submitted to MassDOT for review. Draft 25% design drawings were submitted with final 25% design drawings expected in the fall.

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Charles River Basin Status

Active Risk Management and Sequencing Contract (ARMS)

The ARMS team submitted to MassDOT, for review, the DRAFT Existing Origin-Destination Review and Construction Sequencing Evaluation Report (an update to the Phase 1 Sequencing Report prepared by Beta Group in August 2008) as well as the Existing Conditions and Model Development Methodology Report. Both reports were submitted to the City of Boston and the City of Cambridge for review. MassDOT will be meeting with both cities in the coming weeks and finalizing the two reports in the early fall.



Bike and Pedestrian Study for Pathways and Vehicular Bridges

The Halvorson Design Team finalized and submitted to MassDOT the Existing Conditions Report for the Charles River Basin as it relates to bicycle and pedestrian accommodations. The report was shared with DCR and posted on the ABP web site for public viewing. Spring bicycle and pedestrian counts were conducted throughout the basin and findings were incorporated into the Existing Conditions Report. MassDOT and the Halvorson Design Team worked to finalize the scope for the Connectivity Study of the linear path networks and bridge crossings. It is anticipated that the study will begin in the fall.

As part of the Longfellow Task Force process, the Halvorson Design Team has been observing and listening to the public's general concerns and comments for bicycle and pedestrian connectivity for use in future studies. The Team's suggestions will help MassDOT and DCR work towards consistent design ideas and implementation throughout the Basin.

Mega-Projects Status

Longfellow Bridge – Boston–Cambridge Rte 3/Cambridge Street over Charles River & Storrow/Memorial Drives

Projects 604361 (Prime Rehabilitation) and 604421 (Early Action)

Prelim. Construction Estimate 604361 – \$267,500,000 *(as reported in the Chapter 233 Section 19 report to the Legislature in December 2008)*

Current Construction Estimate 604361 – \$255,573,258

604421 – \$19,876,400

Current Status 604361 – 25% design stage

604421 – In Construction

Schedule 604361 – Currently scheduled to advertise in **March 2012**

604421 – Notice-to-Proceed issued on **May 12, 2010**

Accomplishments/Expected within the next 3 months:

- Task Force established. Four meetings have been held. Next meeting scheduled for August 31, 2010.
- ENF submitted and a Secretary's Certificate, defining the project scope, has been filed according to the MEPA process.
- Negotiate Phase 2 contract scope & fee and obtain FHWA authorization
- Revise EA to incorporate work group comments and file with FHWA for review
- Designer to resubmit sketch plans for MassDOT review
- Update FDR to incorporate up to date traffic data

Fall River Bridge – Fall River - F-02-059 – State Route 79 Including all connecting Ramps, Bridge Rehabilitation

Projects 605223 (Mega-Project) and 605795 (Emergency Repair)

Prelim. Construction Estimate 605223 - \$115,780,823 *(as reported in the Chapter 233 Section 19 report to the Legislature in December 2008)*

Current Construction Estimate 605223 - \$170,000,000

605795 - \$10,000,000

Current Status 605223 - Feasibility Study/Advisory Task Force Stage

605795 – In Construction

Schedule 605223 - Currently scheduled to advertise in **March 2012**

605795 – Construction NTP issued **July 12, 2010**

Accomplishments/Expected within the next 3 months:

- Public information meeting held June 16th and a follow-up seventh Task Force meeting held June 24th.
- Update Regional Traffic Models for conceptual alternatives.
- Prepare and File the ENF according to MEPA.
- Prepare and file an Interchange Justification Report (IJR) with FHWA
- Prepare and submit a NEPA Class of Action letter to FHWA
- Complete review of design team scope & fee for final design required for a D/B procurement.

Mega-Projects Status

Fore River Bridge – Quincy/Weymouth, Q-01-001=W-32-001, State Route 3A (Washington Street) over the Fore River Project 604382

Prelim. Construction Estimate \$242,592,000 *(as reported in the Chapter 233 Section 19 report to the Legislature in December 2008)*

Current Construction Estimate \$282,500,000

Current Status Pre-25% design stage

Schedule Currently scheduled to advertise in **October 2011**

Accomplishments/Expected within the next 3 months:

- Bridge permit application has been filed with US Coast Guard and is under review.
- Public Information Meeting held June 14th in Quincy
- Prepare and submit ACOE Water Quality Certificate
- Prepare and submit EA to FHWA for review
- Bridge Type Study, Functional Design Report and Draft Environmental Assessment have been submitted and are under final review by MassDOT.
- Value Engineering Study scheduled for the week of September 20, 2010
- A meeting was recently held at the request of Major Kay from the Town of Weymouth to discuss concerns raised by the Fore River Neighborhood Association. Discussions will be on-going.
- Next Public Information Meeting is anticipated for October 2010
- MassDOT has selected and publicly announced a preferred alternative to be progressed as part of the NEPA process (Project is MEPA exempt)

Shrewsbury – State Route 9 (Belmont Street) over Lake Quinsigamond, Bridge Replacement, Project 604729

Prelim. Construction Estimate \$137,303,500 *(as reported in the Chapter 233 Section 19 report to the Legislature in December 2008)*

Current Construction Estimate \$121,850,000

Current Status Pre-25% design stage

Schedule Currently scheduled to advertise in **July 2011**

Accomplishments/Expected within the next 3 months:

- Preliminary Structures Report/Preliminary Bridge Type submitted May 2010
- Geotechnical Exploration Borings are complete and will be incorporated into the Geotechnical Report
- On-going public participation with a total of six meetings to date
- A follow up meeting was held with the members of the Lake Quinsigamond Commission at their request on May 26, 2010
- Section 106 informational meeting has been held with City of Worcester Historical Commission on July 22, 2010
- Prepare and submit Chapter 91 application
- Prepare and submit Section 4(f) application
- Prepare and submit ACOE Water Quality Certificate
- Filing of ENF on August 16, 2010
- Value Engineering Study scheduled for the week of August 23, 2010
- Section 106 informational meeting is scheduled with Shrewsbury Historical Commission for September 16, 2010. MassDOT to file letter of Adverse Affect with SHPO by end of September 2010
- NEPA Class of Action to be filed jointly with a Categorical Exclusion in October 2010

Mega-Projects Status

Whittier Bridge – Amesbury/Newburyport - Route I-95 over Merrimack River & Evans Place, Bridge Replacement, Project 601096

Prelim. Construction Estimate \$285,000,000 *(as reported in the Chapter 233 Section 19 report to the Legislature in December 2008)*

Current Construction Estimate \$285,000,000

Current Status Pre-25% design stage

Schedule Currently scheduled to advertise in **July 2012**

Accomplishments/Expected within the next 3 months:

- A working group consisting of the CEO's and appointed representatives from Amesbury, Salisbury and Newburyport has been established. Four working group meetings have been conducted to date with the latest held on August 12, 2010
- Whittier Structural Rehabilitation Assessment Report
- Structural Assessment for Pine Hill, Evans Way, Rte 110, Rte 286
- Bridge Type Alternatives and Preliminary Whittier Type Study Report for main crossing
- Last public information meeting was held on August 12, 2010
- Section 106 information meetings held with local historical commissions for all three Towns
- Draft shared use path study submitted to MassDOT and working group on July 2010
- Continue advancement of type study matrix and finalize type study for main crossing
- Update DEIR/EA to incorporate MassDOT preferred alternative and shared use path and file with MEPA and FHWA
- Prepare Chapter 91 license application
- Submit draft Geotechnical report for Bridge Replacement
- File Section 4(f), DEP WQC and ACOE permits
- File US Coast Guard permit application
- Value Engineering study scheduled for week of October 8, 2010
- Submit type study for Pine Hill, Route 110, Route 286 and Evans Way bridges

Master Schedule

Monday, September 27, 2010

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Glossary

Glossary of Acronyms

ABC	Accelerated Bridge Construction	FHWA	Federal Highway Administration
ABP	Accelerated Bridge Program	FFY	Federal Fiscal Year
ADT	Average Daily Traffic	FO	Functionally Obsolete
ANRAD	Abbreviated Notice of Resource Area Delineation	FRP	Fiber Reinforced Polymer
COA	Class of Action determination	MassDOT	Massachusetts Department of Transportation
ConCom	Conservation Commission	MEPA	Massachusetts Environmental Policy Act
DCR	Department of Conservation and Recreation	MWDBE	Minority and/or Woman-Owned Disadvantaged Business Enterprise
D-B (or DB or D/B)	Design-Build		
D-B-B (or DBB)	Design-Bid-Build	NEPA	National Environmental Policy Act
DBE	Disadvantaged Business Enterprise	NFA	Non Federal-Aid
EIR	Environmental Impact Report (MEPA)	PS&E	Plans, Specifications, and Estimates
EIS	Environmental Impact Study (NEPA)	SD	Structurally Deficient
ENF	Environmental Notification Form	SFY	State Fiscal Year
FA	Federal-aid	VE	Value Engineering
FDR	Functional Design Report	VECP	Value Engineering Cost Proposal

Glossary of Terms

Word, Term, Title, Expression, or Phrase	Definition/Description
<i>Abbreviated Notice of Resource Area Delineation</i>	The Abbreviated Notice of Resource Area Delineation , WPA Form 4A, (ANRAD) serves two purposes under the Wetland Protection Act . First, the ANRAD provides a procedure for an applicant to confirm the delineation of a Bordering Vegetated Wetlands (BVW). If an ANRAD is filed for a BVW delineation, confirmation of other resource areas may also be requested provided the other resource area boundaries are identified on the plans which accompany the BVW boundary delineation. The second purpose of the ANRAD is to serve as the application for Simplified Review for projects in the Buffer Zone.
<i>Accelerated Bridge Construction</i>	Accelerated bridge construction (ABC) is the application of accelerated construction techniques to bridge construction that can reduce durations from years to days, and in some cases, hours. ABC includes the use of pre-cast, pre-engineered, and pre-fabricated components and heavy-lift equipment that permits rapid installation and shorter disruptions to people and commerce. Pre-fabricated components produced off-site can be quickly assembled, and can reduce design time and cost, minimize forming, minimize lane closure time and/or possibly eliminate the need for a temporary bridge.

Word, Term, Title, Expression, or Phrase	Definition/Description
Average Daily Traffic	Average daily traffic or ADT is the standard measurement for vehicle traffic load on a section of road.
Bridge Type Study	The Bridge Type Study is the process by which the most appropriate structure type for a given location is determined, and it is a compilation of the necessary economic, aesthetic, and site evaluations which lead to that selection. A well conceived Bridge Type Study will; provide hydraulic and geotechnical considerations; consider the structure types feasible for the site parameters or environmental commitments; provide the reasoning for eliminating or developing particular alternatives; and provide cost estimates for all alternatives considered and the rationale for the selection of the structure type chosen.
Bundle or Bundling	Bundling is a practice in which agencies consolidate two or more projects into a single prime contract.
Class of Action Determination	<p>A Class of Action determination is required for all Federal actions and establishes the level of environmental documentation required to comply with the NEPA and the regulations of the Council on Environmental Quality (CEQ). There are three classes of actions defined which prescribe the level of documentation required in the NEPA process:</p> <p>Class I: Environmental Impact Statements (EISs) - for actions that significantly affect the environment as defined by CEQ regulations.</p> <p>Class II: Categorical Exclusions (CEs) - for actions that do not individually or cumulatively have a significant environmental effect.</p> <p>Class III: Environmental Assessments (EAs) - for actions in which the significance of the environmental impact is not clearly established. All actions that are not Class I EISs or Class II CEs are Class III.</p>
Design-Bid-Build	Design-Bid-Build is a project delivery method in which the agency or owner contracts with separate entities for the design and the construction of a project. Design-bid-build is the traditional method for project delivery.
Design-Build	Design-Build is a method of project delivery in which the agency or owner executes a single contract with one entity for design and construction services. This system is used to minimize the project risk for an owner and to reduce the delivery schedule by overlapping the design phase and construction phase of a project.
Disadvantaged Business Enterprise	A for-profit small business concern that is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals and whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.
Federal-Aid	Federal-aid describes highway funds that are authorized by Congress to assist the States in providing for construction, reconstruction, and improvement of highways and bridges on eligible Federal-aid highway routes and for other special purpose programs and projects.
Federal Highway Administration	The Federal Highway Administration (FHWA) is a division of the U.S. Department of Transportation (DOT) that specializes in highway transportation.
Federal Fiscal Year (FFY)	The Federal Fiscal Year runs from October 1 of the prior year through September 30 of the next year.
Functional Design Report	A functional design report (FDR) is a necessary component for all transportation and safety improvement projects submitted to MassDOT at the 25% design stage, including mitigation projects developed through the Massachusetts Environmental Protection Agency (MEPA) process. Footprint bridge, roadway resurfacing, and maintenance projects are generally exempt from this requirement.

Word, Term, Title, Expression, or Phrase	Definition/Description
Functionally Obsolete	A bridge is functionally obsolete when it is inadequate to fulfill its current function, such as a four-lane road leading to a two-lane bridge.
Non Federal-Aid	Non Federal-Aid (NFA) is a Massachusetts term for funds for construction, reconstruction, and improvement projects on roads and bridges at the discretion of the state. The state share is 100 percent of the project costs. Also known as non-Federal share, non-Federal match
Plans, Specifications, and Estimates	The engineering design process produces contract plans, specifications, and cost estimates (PS&E). These documents contain all the construction details, contract provisions, permits, agreements, and certifications required to advertise, award, and administer a construction contract.
State Fiscal Year (SFY)	The State Fiscal Year for Massachusetts runs from July 1 of the prior year through June 30 of the next year.
Structurally Deficient	A structurally deficient bridge is one for which the deck (riding surface), the superstructure (supports immediately beneath the driving surface), or the substructure (foundation and supporting posts and piers) are rated in condition 4 or less on a scale of 1-10; a bridge that has experienced deterioration significant enough to potentially reduce its load-carrying capacity. Structural deficiency does not necessarily imply that a bridge is unsafe.
Value Engineering	Value Engineering (VE) is the systematic application of recognized techniques by a multi-disciplined team to identify the function of a product or service, establish a worth for that function, generate alternatives through the use of creative thinking, and provide the needed functions to accomplish the original purpose of the project, reliably, and at the lowest life-cycle cost without sacrificing safety, necessary quality, and environmental attributes of the project.
Value Engineering Cost Proposal	Value Engineering Cost Proposals (VECP) are post-award value engineering proposals made by construction contractors during the course of construction under a value engineering clause in the contract. The Federal-aid Policy Guide defines VECPs as "a construction contract provision which encourages the contractor to propose changes in the contract requirements which will accomplish the project's functional requirements at less cost, or improve value or service at no increase or a minor increase in cost. The net savings of each proposal is usually shared with the contractor at a stated reasonable rate."